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- (30) 1990/02/03 (P 40 03 272.8) DE
- (54) MELANGES D'ESSENCE POUR VEHICULE ET LEUR UTILISATION DANS DES PREPARATIONS MEDICALES
- (54) NOVEL VEHICLE GAS MIXTURES AND THEIR USE IN MEDICAL PREPARATIONS

- (57) Nouveaux mélanges de gaz propulseurs présentant des avantages et contenant deux composants ou davantage, dont l'un au moins est un alcane inférieur partiellement fluoré, et pouvant s'utiliser dans des préparations médicamenteuses.
- (57) Novel advantageous vehicle gas mixtures contain two or more components, at least one of which is a partly fluorinated lower alkane, and may be used in medical preparations.

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Veröffentlicht

Mit internationalem Recherchenbericht. Vor Ablauf der für Änderungen der Ansprüche zugelassenen Frist. Veröffentlichung wird wiederholt falls Änderungen eintreffen.

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(54) Title: NOVEL VEHICLE GAS MIXTURES AND THEIR USE IN MEDICAL PREPARATIONS

(54) Bezeichnung: NEUE TREIBGASMISCHUNGEN UND IHRE VERWENDUNG IN ARZNEIMITTELZUBEREITUN-GEN

(57) Abstract

Novel advantageous vehicle gas mixtures contain two or more components, at least one of which is a partly fluorinated lower alkane, and may be used in medical preparations.

(57) Zusammenfassung

Neue vorteilhafte Treibgasmischungen enthalten zwei oder mehr Komponenten, von denen mindestens eine ein teilfluoriertes niederes Alkan ist und können in Arzneimittelzubereitungen Verwendung finden.

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CLAIMS:

- Propellant gas mixtures made from two or more components for inhaled pharmaceutical preparations, characterised in that they contain 1,1,1,2,3,3,3 heptafluoropropane and, in addition, one or more compounds from the group 1,1,1,2-tetrafluoroethane, pentafluoroethane, TG 11, TG 12 or TG 114, where the quantity of 1,1,1,2,3,3,3-heptafluoropropane is between 30 and 95% by weight.
- 2. Propellant gas mixtures according to claim 1,
 to characterised in that they additionally contain at least one surface-active substance.
- Propellant gas mixtures according to claim 2, characterised in that the surface-active substance is a phospholipid, a sorbitan ester with a higher saturated or unsaturated fatty acid or a polyethoxysorbitan ester of a higher fatty acid.
 - 4. Propellant gas mixtures according to claim 3, wherein the polyethoxysorbitan ester is of an unsaturated fatty acid.
- 5. Propellant gas mixture according to claim 2,
 20 characterised in that the surface-active substance is a
 lecithin, a polyoxyethylene sorbitan oleate or a sorbitan
 trioleate.
- 6. Inhaled pharmaceutical preparations for the production of powder aerosols based on propellant gas mixtures according to any one of claims 1, 2, 3 or 4, characterised in that they contain a betamimetic, an anticholinergic, a steroid, an antiallergic or a PAF-antagonist as their active ingredient, or that they contain a combination of such compounds.
- 7. Pharmaceutical preparations according to claim 6, 30 characterised in that the b tamimetic used is:

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Bambuterol

Bitolterol

Carbuterol

Clenbuterol

5 Fenoterol

Hexoprenaline

Ibuterol

Pirbuterol

Procaterol

10 Reproterol

Salbutamol

Salmeterol

Sulphonterol

Terbutaline

15 Tulobuterol

1-(2-fluoro-4-hydroxyphenyl)-2-[4-(1-benzimidazolyl)-2-methyl-2-butylamino]ethanol

Erythro-5'-Hydroxy-8'-(1-hydroxy-2-isopropylaminobuty1)-2H-1,4-benzoxazine-3-(4H)-one

20 1-(4-amino-3-chloro-5-trifluoromethylphenyl)-2-tert.butylamino)ethanol

1-(4-ethoxycarbonylamino-3-cyano-5-fluorophenyl)-2-(tert.-butylamino)ethanol;

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the anticholinergic used is:

Ipratropium bromide

Oxitropium bromide

Trospium chloride

Benzilic acid $N-\beta$ -fluorethylnortopine ester methobromide;

the steroid used is:

Budesonide

Beclomethasone (or the 17,21-dipropionate)

10 Dexamethazole-21-isonicotinate

Flunisolide;

the antiallergic used is:

Disodium cromoglycate

Nedocromil;

and the PAF-antagonist used is:

4-(2-chlorophenyl)-9-methyl-2-[3(4-morpholinyl)-3-propanone-1-yl]-6H-thieno[3,2-f][1,2,4]triazolo [4,3-a]
[1,4]diazepine

6-(2-chlorophenyl)-8,9-dihydro-1-methyl-8[4-20 (morpholinyl)carbonyl]-4H-7H-cyclopenta[4,5] thieno[3,2-f]
[1,2,4]triazolo[4,3-a][1,4]diazepine

6-(2-chlorophenyl)-8,9-dihydro-1-methyl-8-(N,N-dipropyl-aminocarbonyl)-4H-7H-cyclopenta[4,5]thieno[3,2-f][1,2,4]triazolo[4,3-1][1,4]diazepine.

- 8. Pharmaceutical preparations according to claim 6, characterised in that the combination of active ingredients comprises one of the betamimetics specified in claim 7 and one of the anticholinergics specified in claim 7.
- 9. Pharmaceutical preparations according to claim 6, characterised in that the combination of active ingredients comprises one of the betamimetics specified in claim 7 and disodium cromoglycate.
- 10. Pharmaceutical preparations according to claim 6,
 10 characterised in that the combination of active ingredients
 comprises one of the betamimetics specified in claim 7 and one
 of the PAF-antagonists specified in claim 7.
- Pharmaceutical preparations according to claim 6, characterised in that the combination of active ingredients
 contains disodium cromoglycate and one of the PAF-antagonists specified in claim 7.

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